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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,864	08/21/2001	Neil Haley	1217.011USU (KPG 01133)	6379

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EXAMINER

CHU, JOHN S Y

ART UNIT

PAPER NUMBER

1752

DATE MAILED: 03/20/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,864

Applicant(s)

HALEY ET AL.

Examiner

John S. Chu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25, 37, 40 and 41 is/are rejected.
- 7) ☒ Claim(s) 26-36, 38, 39 and 42-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4+7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the application filed August 21, 2001.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 refers to an acid generator of claim 18, however claim 18 has further limited the acid generator to an onium salt selected from the Markush list of onium salts. The claim is confusing and unclear as to the claim it actually should depend. Should it refer to claim 16 and further limit the acid generator or should it depend from claim 18 and refer to an onium salt being the specified diazonium salt as recited in claim 22. Clarification or amendment is necessary to remove the confusion.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

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4. Claims 1-4, 7, 10, 11, 14, 15, 24, 25, 37, 40 and 41 rejected under 35 U.S.C. 102(e) as being clearly anticipated by OHSAWA et al or TACHIKAWA et al.

The claimed invention is drawn to an imageable composition, comprising an acid curable composition; an acid generator; and a strong acid. The claims are further drawn to an imageable element comprising a substrate; and an imageable composition coated on a surface of said substrate said composition comprising: an acid curable composition; an acid generator; and a strong acid.

finally the claimed are drawn to a method of producing an imaged element comprising the steps of :

providing a thermally imageable element comprising a substrate and a thermally imageable composition coated on a surface of said substrate, said composition comprising an acid curable composition, and acid generator and a strong acid;

imagewise exposing said imageable element to heat with a hot stylus to produce an imagewise exposed element having exposed and unexposed regions;

baking said imagewise exposed element at a temperature and period of time sufficient to produce a cured element; and

contacting said cured element and a developer to remove the unexposed regions and thereby produce said imaged element.

OHSAWA et al anticipates the claimed invention at E21 of Table 2, in column 57 and 58, wherein the composition comprises a polymer L, a PAG 9, a crosslinker A, a basic compound A and an organic acid A (defined as 4,4-bis (4'-hydroxyphenyl) valeric acid. This organic acid

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specification. Any acid it would meet the definition of a strong acid as claimed because of the definition of the strong having a pKa of not more than 8.

TACHIKAWA et al anticipates the invention at Examples 1-10 wherein the examples describe a negative working composition comprising copolymeric resin having weight molecular weight of 2500 of hydroxystyrene units and styrene units, a triphenylsulfonium trifluoromethane sulfonate, dimethoxymethylated ethylenurea, tributylamine and salicylic acid. The Examples of TACHIKAWA et al anticipate each of the claimed ingredients as recited in the claims above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-25, 37, 40 and 41 rejected under 35 U.S.C. 103(a) as being unpatentable over OHSAWA et al or TACHIKAWA et al in view of SCHWALM et al.

The claimed invention has been recited above and is included by reference.

OHSAWA et al has been discussed for the relevant portions for the claimed curable composition, acid generator strong acid, binder and crosslinking agent, which anticipate the claimed invention, as seen Example E21, column 57 and 58.

OHSAWA et al lacks the explicit use of an onium salt in an example as recited in the dependent claims.

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TACHIKAWA et al has been discussed above for the negative working composition comprising an acid generator and salicylic acid as the claimed strong acid

TACHIKAWA et al lacks the use of diazonium salts as the acid generator as recited in the dependent claims.

SCHWALM et al is cited to disclose known photoinitiators, use as acid generators for cationic polymerizations. These same acid generating compounds are also disclosed to be used in acid-catalyzed photoresist compositions as seen in OHSAWA et al. Because of the analogous use of these acid generating compounds in OHSAWA et al and SCHWALM et al, see column 9, lines 33 – 51, these compounds are seen as functionally equivalent photoinitiators.

It would have been *prima facie* obvious to one of ordinary skill in the art of negative working photosensitive compositions to use known onium salts and diazonium salts as acid generators disclosed in SCHWALM et al in place of the acid generating compounds found in the examples of OHSAWA et al and TACHIKAWA et al for negative working photoresists and reasonably expect same or similar results as recited in OHSAWA et al and TACHIKAWA et al for improved resolution and improved pattern profile.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WINKLE is cited to disclose positive acting photoresist having a crosslinking agent and a photoacid and a photobase generating compound.

JEFFERS et al '529 and '959 are cited to disclose diazo printing plate with a diazonium salt, a polyvinyl formal resin and a phosphoric acid, see Example 2 and Example 11, respectively. These references lack a crosslinking agent.

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CUNNINGHAM et al, TAKIFF et al and WALLES et al disclose diaryl iodonium salts as known photoacid generators.

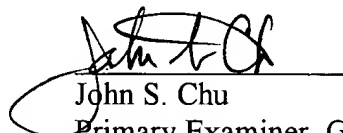
8. Claims 26-36, 38,39, and 42-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the cited references disclose the use of an infrared sensitive or photothermal conversion material in a negative photoresist with a strong acid.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (703) 308-2298. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for this Group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.


John S. Chu
Primary Examiner, Group 1700

J.Chu
March 18, 2003